

SHARP, ROBERT P. Pleistocene ventifacts east of the Big Horn Mountains, Wyoming. *Journal of Geology*, Vol. 57, No. 2, 1949, p. 175-95.

Pleistocene wind directions have been measured at twenty-nine separate localities by careful reference to wind-cut faces on large, presumably stable, boulders. The mean Pleistocene wind direction so determined is N. 29° W. Modern winds are also consistently from the north-west, and it appears that local orographic control was supreme in the Pleistocene as now. Neither glaciers in the Big Horn Mountains nor the continental ice sheet, 250 miles north, exerted much influence on local wind directions. [From author's abstract.]

STREIFF-BECKER, RUDOLF. Beitrag zur Glazialmorphologie. *Geographica Helvetica*, Band 4, Heft 2, 1949, p. 106-11.

After a brief historical outline the author describes his views of the internal movement of glaciers. He discusses the effect of glacial erosion on ground which, since A.D. 1600-20 (the time of maximum extension and thickness of glaciers), has been laid bare by reason of glacial recession. He accepts the fact that for the greater part changes in the courses of rivers result from the bursting of embankments or from the rapid advance of glaciers at times of glacial maxima. [G. S.]

TURNER, FRANCIS J. Preferred orientation of calcite in Yule marble. *American Journal of Science*, Vol. 247, No. 9, 1949, p. 593-621.

A detailed account of the fabric of Yule marble is given for later comparison with the fabric of the same rock artificially deformed. Preferred orientation of certain crystal directions is described. It is shown that certain lamellae are probably due to translation rather than to twin gliding. [From author's abstract.]

URRY, WILLIAM D. Radioactivity of ocean sediments. VI. Concentrations of the radio-elements in marine sediments of the southern hemisphere. *American Journal of Science*, Vol. 247, No. 4, 1949, p. 257-75.

It has been reported in previous publications of this series that the mode of variation of the radium concentration below the ocean bottom affords a method of determining time in ocean sediments. Hitherto, these researches were confined to the northern hemisphere. Similar studies in the southern hemisphere, combined with the necessary geological and biological investigations, should provide an answer to the question of the contemporaneity of glaciation in the northern and southern hemispheres. Measurements of the radium content as a function of depth in the sediment are presented here for ocean-bottom cores secured by the U.S. Navy Antarctic Expedition of 1946-47. [Author's abstract.]

WAHRHAFTIG, CLYDE. The frost-moved rubbles of Jumbo Dome and their significance in the Pleistocene chronology of Alaska. *Journal of Geology*, Vol. 57, No. 2, 1949, p. 216-31.

Jumbo Dome, a prominent landmark on the north side of the Alaska Range, is a small body of intrusive andesite surrounded by schist and by poorly consolidated sediments of Tertiary age. Frost-moved rubbles, consisting of coarse andesite blocks, almost completely mantle the dome and have advanced outward from it across a gently sloping terrain for distances as much as one and a quarter miles. Several different periods of rubble development are recognized, based on the amount of vegetal covering of the deposits, the preservation of their surface forms, and their degree of erosion by fluvial processes. The rubbles are not now moving and are believed to have originated under the influence of an Arctic climate in a manner analogous to rock glaciers. The difference in altitude between presently moving rock glaciers in this region and the rubble deposits of Jumbo Dome corresponds to the difference in altitude between present ice-filled cirques and the lowest cirques of the Wisconsin stage of glaciation. Reasons are given for believing that fluvial weathering and destruction of rock glaciers represent climates at least as mild as the present. On this basis five separate glacial episodes, separated by interglacial and interstadial epochs, are recognized. [Author's abstract.]

WALKER, EUGENE H. Andean uplift and erosion surfaces near Uncia, Bolivia. *American Journal of Science*, Vol. 247, No. 9, 1949, p. 646-63.

Physiographic and paleontological evidence lead to the conclusion that the area was relatively low-lying toward the end of the Pliocene and that most of the uplift to the present elevations occurred during the Pleistocene. There was slight mountain glaciation during the Pleistocene, but two terraces and stream-bed alluvium suggest two stages of glacial climate. The region is now experiencing an increase in aridity. [From author's abstract.]

GLACIOLOGICAL LITERATURE

THIS bi-annual list of glaciological literature aims to cover the scientific aspects of snow and ice in all parts of the world. Attention is drawn to the bibliographies in each number of *The Polar Record* (Cambridge), which aim to cover the significant work dealing with expeditions, research, equipment and conditions of living in the Polar regions. Both journals, however, deal with Polar literature having specific glaciological interest and with general matters of a practical nature such as snowcraft.

Readers will greatly assist the Editor by notifying him of their own, or any other, publication of glaciological interest.

AHLMANN, HANS W:SON. Contribution of Polar expeditions to the science of glaciology. *Polar Record*, Vol. 5, Nos. 37, 38, 1949, p. 324-31.

BARTELL, M. J. The relation of runoff to precipitation in the Sierra Nevada, California. *Transactions American Geophysical Union*, Vol. 30, No. 1, 1949, p. 89-97. [Method for estimating the amount of delayed runoff due to accumulated snow on a drainage area. Discusses precipitation-runoff relationship.]

BERGERON, TOR. Nyare rön om nederbördens uppkomst och fördelning. *Ymer*, 69 Årg., Häfte 3, 1949, p. 161-88. [Advances in physics and geographical distribution of precipitation. English summary.]